

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Tsuyoshi KUBOTA et al.	Art Unit: 2167
Application No.: 10/743,458	
Confirmation No.: 8146	Examiner: C. Kim
Filing or 371(c) Date: December 23, 2003	
Title: SPLIT TYPE CONNECTING ROD	

**PRE-APPEAL BRIEF REQUEST FOR REVIEW**

Mail Stop AF  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

In response to the Office Action dated April 11, 2007, the period for response to which has been extended to September 11, 2007, by the accompanying Petition for a TWO-month Extension of Time, please consider Applicant's arguments and remarks concerning the rejections issued in the Office Action dated April 11, 2007. Applicant has filed a Notice of Appeal with this Pre-Appeal Brief Request for Review.

Claims 1-24, 31, and 32 are pending in this application.

First, the Examiner alleged that Mukai et al. teaches a valley 11<sub>2</sub>, 12<sub>2</sub> and a fracture starting point groove 11<sub>1</sub>, 12<sub>1</sub> formed at a base portion of the valley. The Examiner acknowledged that Mukai et al. fails to show the upper and lower surfaces of the fracture starting point groove having an angle of about 10 degrees or less, or parallel to, the fracture plane. The Examiner further alleged:

It would have been an obvious matter of design choice to make the angle of fracture starting point groove of Mukai et al. less than 10 degrees or less from [*sic*] (or parallel to) the fracture plane, since such a modification would have involved a mere change in the shape of the groove. A change in size or shape is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955). Furthermore, a discovery of optimum range within prior art general conditions is also generally recognized as being within the level of

ordinary skill in the art. *In re Aller et al.*, 105 USPQ 233.

Applicant respectfully disagrees because Mukai et al. specifically teaches that the upper and lower surfaces 11<sub>1</sub>, 12<sub>1</sub> of the fracture starting point groove form an angle  $\theta_1$  of “**45° to 50°, preferably 50°**” (see, for example, lines 44-47 in column 3 of Mukai et al.). Since Mukai et al. discloses that the angle  $\theta_1$  extends from the upper surface to the lower surface of the fracture starting point groove, the angle from the upper/lower surface to the fracture plane is half of the angle  $\theta_1$ , i.e., **22.5° to 25°, preferably 25°**.

The Examiner has completely failed to provide any proper motivation why one of ordinary skill in the art would deviate from the express teachings of Mukai et al. that the upper and lower surfaces of the fracture starting point groove define an angle from 22.5° to 25° with respect to the fracture plane.

Alternatively, the Examiner alleged that a “discovery of optimum range within prior art general conditions is also generally recognized as being within the level of ordinary skill in the art.” However, the Examiner is reminded that “[a] particular parameter must first be recognized as a result-effective variable, i.e., a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation.” In re Antonie, 195 USPQ 6 (CCPA 1977) and MPEP §2144.05(II)(B). The Examiner has failed to show that this angle is a result-effective variable.

Furthermore, Mukai et al. teaches a very narrow range of angles, i.e., **22.5° to 25°**, and neither teaches nor suggests anything at all about modifying this range. Moreover, Mukai et al. discloses that the preferred angle lies at the upper end of the range, i.e., **25°**. It is noted that the Examiner’s proposed modification would reduce the angle disclosed by Mukai et al. **by more than half**. Clearly, it would not have been obvious to one of ordinary skill in the art to “discover the optimum range” of 10 degrees or less, when the prior art specifically teaches an angle that is more than twice that.

Second, the Examiner alleged that Spurny teaches a valley D and a fracture starting point groove 13 provided at the base portion of the valley. The Examiner

acknowledged that Spurny fails to show the upper and lower surfaces of the fracture starting point groove having an angle of about 10 degrees or less, or parallel to, the fracture plane. Again, the Examiner alleged that it would have been an obvious matter of design choice, or a mere change in size, or the discovery of an optimum range to make the angle of the upper and lower surfaces of the fracture starting point groove less than 10 degrees, or parallel to, the fracture plane (see, for example, the first full paragraph on page 5 of the outstanding Office Action).

However, the fracture starting point groove of Spurny appears to form an even larger angle (e.g., 30° to 40°) with respect to the fracture plane than that disclosed by Mukai et al. (see, for example, Fig. 3 of Spurny). Again, the Examiner has completely failed to provide any proper motivation why one of ordinary skill in the art would modify the angle disclosed by Spurny to be less than 10 degrees, or parallel to, the fracture plane.

Third, the Examiner alleged that AAPA shows in Figs. 1A and 1B upper and lower surfaces of the fracture starting point groove parallel to a predetermined fracture plane. The Examiner further alleged that it would have been obvious to one of ordinary skill in the art to provide the fracture starting configuration disclosed in AAPA with a valley as taught by Mukai et al. to prevent damage to the valley during the breaking and dividing of the connecting rod.

Applicant respectfully disagrees because Figs. 1A and 1B of Applicant's drawings do **NOT** show upper and lower surfaces of the fracture starting point groove being parallel to a predetermined fracture plane, as alleged by the Examiner. Fig. 1A shows a distant view of the fracture starting point groove 51 wherein the upper and lower surfaces only appear to be parallel to the fracture plane. Fig. 3 is a close up view showing the fracture starting point groove 51 shown in Fig. 1A, in which the upper and lower surfaces are clearly **NOT** parallel to the fracture plane. Furthermore, in the second full paragraph on page 1 of Applicant's specification, which addresses the fracture starting point groove 51 shown in Figs. 1A and 1B, Applicant refers to U.S. Patent No. 4,569,109 (the '109 patent) as an example of a connecting rod having a

similar fracture starting point groove. As can be seen in, for example, Figs. 1, 4, and 10 of the '109 patent, the fracture starting point grooves 42, 44 and 84, 85 are clearly **NOT** parallel to the fracture plane. Accordingly, Applicant respectfully submits that the Examiner has mischaracterized the fracture starting point groove 51 shown in Figs. 1A and 1B of Applicant's drawings.

Assuming *arguendo* that it would have been obvious to combine AAPA with the valley of Mukai et al., the Examiner has failed to establish why one of ordinary skill in the art would ignore the specific teachings of Mukai et al. to provide the upper and lower surfaces of the fracture starting point groove with an angle from 22.5° to 25° with respect to the fracture plane.

Since Figs. 1A to 3 of Applicant's drawings and the '109 patent fail to teach or suggest a preferred angle of the upper and lower surfaces of the fracture starting point groove with respect to the fracture plane, one of ordinary skill in the art would have been motivated to use an angle from 22.5° to 25° as taught by Mukai et al. since only Mukai et al. provides any teaching whatsoever with respect to the specific angle of the upper and lower surfaces of the fracture starting point groove with respect to the fracture plane.

Fourth, the Examiner alleged that Ishida et al. teaches a fracture starting point groove 21 provided at the base portion of a valley 5a, 5b, 6a, 6b. The Examiner acknowledged that Ishida et al. fails to show the upper and lower surfaces of the fracture starting point groove having an angle of about 10 degrees or less, or parallel to, the fracture plane. Again, the Examiner alleged that it would have been an obvious matter of design choice, or a mere change in size, or the discovery of an optimum range to make the angle of fracture starting point groove less than 10 degrees, or parallel to, the fracture plane (see, for example, the first and second full paragraphs on page 9 of the outstanding Office Action).

Applicant respectfully disagrees because Ishida et al. specifically discloses that the fracture starting point groove 21 is provided with a **"V-shaped notch cross section"** (see, for example, lines 10-12 in column 9 of Ishida et al.). Thus, the fracture starting

point groove 21 of Ishida et al. is similar to the fracture starting point groove 11<sub>1</sub>, 12<sub>1</sub> disclosed by Mukai et al.

Since Ishida et al. fails to teach or suggest a preferred angle of the upper and lower surfaces of the fracture starting point groove with respect to the fracture plane, one of ordinary skill in the art would have been motivated to use an angle from 22.5° to 25° as taught by Mukai et al. since only Mukai et al. provides any teaching whatsoever with respect to the specific angle of the upper and lower surfaces of the fracture starting point groove with respect to the fracture plane.

In view of the foregoing remarks, Applicant respectfully submits that claims 1 and 21 are allowable. Claims 2-20, 22-24, 31, and 32 depend upon claims 1 and 21, and are therefore allowable for at least the reasons that claims 1 and 21 are allowable.

In view of the foregoing remarks, Applicant respectfully submits that this application is in condition for allowance. Favorable consideration and prompt allowance are solicited.

To the extent necessary, Applicant petitions the Commissioner for a TWO-month extension of time, extending to September 11, 2007, the period for response to the Office Action dated April 11, 2007.

The Commissioner is authorized to charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1353.

Respectfully submitted,

Dated: September 11, 2007

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<b>PRE-APPEAL BRIEF REQUEST FOR REVIEW</b>		Docket Number (Optional)  90606.2/wa	
I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to "Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450" [37 CFR 1.8(a)]  on <u>September 11, 2007</u>  Signature <u>/Michelle Rhodes/</u>  Typed or printed name <u>Michelle Rhodes</u>		Application Number  10/743,458	Filed  December 23, 2003
Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.     This request is being filed with a notice of appeal.     The review is requested for the reason(s) stated on the attached sheet(s). Note: No more than five (5) pages may be provided.     I am the		First Named Inventor  Tsuyoshi KUBOTA	
		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px; vertical-align: top;">           Art Unit  2167         </td> <td style="padding: 5px; vertical-align: top;">           Examiner  C. Kim         </td> </tr> </table>	
Art Unit  2167	Examiner  C. Kim		
<input type="checkbox"/> applicant/inventor.		<u>/Stephen R. Funk #57,751/</u> Signature	
<input type="checkbox"/> assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)		<u>Stephen R. Funk</u> Typed or printed name	
<input type="checkbox"/> attorney or agent of record. Registration number _____		<u>703-637-1480</u> Telephone number	
<input checked="" type="checkbox"/> attorney or agent acting under 37 CFR 1.34. Registration number if acting under 37 CFR 1.34 <u>57,751</u>		<u>September 11, 2007</u> Date	
NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.			
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